شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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بالرسالة صفحات لم ترد بالاصل

STUDIES ON SKIN PARASITIC DISEASES AMONG CULTURED OREOCHROMUS NILOTICUS FISH

A Thesis Presented

By

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بسم الله الرحمن الرحيم

"وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون وستردون إلى

عالم الغيب والشهادة فينبئكم بما كنتم تعملون"

صدق الله العظيم

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The present study was carried out on 450 alive specimens of *Oreochromis niloticus* of different size and body weight were randomly collected from a special fish farm in Dakahlia Governorate for the detection of the skin parasitic diseases during different seasons. Clinical signs and postmortem lesions of *O.niloticus* infested with ciliated protozoa revealed skin coloration with excessive outer slimy layer, small blood spots were detected at the base of fins, skin and scale detachment, also the skin of *O.niloticus* infested with monogenetic trematode revealed sluggish movement, loss of appetite, excessive mucous secretion hemorrhagic skin & scale detached, frayed fins, emaciation.
The isolated parasites obtained from examined fishes were ciliated protozoa including *Trichodina sp., Chilodonella sp., Scyphidia sp., and Apiosoma (Glossatella sp.),* flagellated protozoa including *Ichthyobodo necator,* monogenetic trematodes inclued *Gyrodactylus sp.*, mixed monogenea and protozoa. The total prevalence of skin parasitic infestation in *O.niloticus* was 63.3%. The results indicated that the infestation rates with *Trichodina sp., Chilodonella sp., Scyphidia sp., Apiosoma sp., Ichthyobodo necator, Gyrodactylus sp., Crustacea and Mixed monogenea & protozoa* were 20.7% , 8.9% , 13.8% , 3.3% , 2.9%, 7.8%, 0% and 6% respectively.
Seasonal incidence of external parasites from examined *O.niloticus* revealed that *Trichodina sp.* reached its highest rate of infestation during autumn (26.7%) while the lowest rate was during summer 13.3%, *Chilodonella sp.,* reached its highest rate of infestation during autumn 14.7% and was not found during summer, *Scyphidia sp.,* reached its highest rate of infestation during autumn 17.3% and spring 14% while *Apiosoma (Glossatells sp.)* reached its highest infestation in Autumn 4.7%. *Ichthyobodo necator* recorded only in autumn with a rate of 8.7%. also *Gyrodactylus sp.* reached high prevalence in Autumn 13.3%. It was noticed that mixed infestation with protozoa and monogenea were reached its maximum infestation in autumn 10% than spring 8% but not recorded in summer. *Trichodina sp., Chilodonella sp., Scyphidia sp., and Apiosoma (Glossatella sp.)* showed higher prevalence of infestation on the skin 64.5%, 72.5% 64.5% and 80% respectively. But *Ichthyobodo necator* & Monogenea *(Gyrodactylus sp.)* showed higher prevalence of infestation on the fins 61.5% and 57.1% respectively.

Abu El-Wafa (1988) recorded four species of Trichodina from external body surface of Tilapia species and ***Clarias lazera***, in Behera governorate, Egypt, the author found that Trichodina sp. infestation predominate during Winter and Spring seasons and redescribed ***Trichodina fultoni, T.truttae. T.reticulate*** and ***T.californica*** from ***Oreochromis niloticus,*** and found that Trichodina sp., infestation was (21.5 %). He added that the isolated protozoan from the skin, fins and body surface.

Ghosh et al., (1988) accounted on fish ponds at Hooghly, India, concerning the infestation of ***Labeo-rohita*** by ***Trichodina indica.*** They examined 930 fish, 49 % were infected with the parasite which was more common among fishes with size ranging from 30-311μ.m.

Abd El-Megiuid (1989) detected ***Trichodina nobilis*** on the skin of newly hatched Grass carp ***(Ctenopharygodon idella)*** fry causing mortalities and serious losses. Diseased fish loss their original coloration, acquired a dark colour and became much thinner than non infested fish.

El-Khatib (1989) redescribed Trichodina sp. isolated from skin of ***Oreochromis niloticus*** and added that incidence of Trichodina sp. was 55.9%. The infested fish showed slimy skin with dirty mucus on the body and presence of eroded fins.

Van As and Basson (1989) described the shape of the denticles of Trichodinid parasites to facilitate species diagnosis. Denticular shape can be described by constructing lines extending from the central of the adhesive disc to the tip of the denticles, which provide

fixed points of reference that can aid in an accurate description of the denticle elements.

Khan (1991) identified ***Trichodina truttae*** in Captive Atlantic Salmon fish with intense infections showed signs of listlessness, erratic swimming and inappietance, excessive mucous secretion ,epithelial sloughing and lesions that probably permitted entry of opportunistic bacteria which cause ulcers and death.

Mostafa *et al.*, (1991) found that Trichodina species were predominated in Winter season.

Ramadan (1991) examined Tilapia fish in Lake Manzalah and found that they were infected with different types of parasites including Trichodina sp. The prevalence of infection was highest in ***T. zilli*** and lowest in ***T. nilotica***. He also mentioned that Winter was found to be the season of severe parasitic infestation of fishes and lowest percentage of infection was recorded in Summer , and the large sized fishes were more subjected to parasitic infection than smaller ones.

El -Gawady *et al.*, (1992) reported that ectoparasites of fish skin were the most prevalent pathogens of ***Oreochromis niloticus.*** Trichodina sp. represented the highest rate of infection among detected parasites. They added that investigated ectoparasites among 200 clinically diseased and freshly dead ***Tilapia nilotica*** in Ismailia Governorate. They found that ectoparasitic disease was 34% for Trichodiniosis.

Urawa (1992) investigated the occurrence of ***Trichodina truttae*** on Juvenile Pacific salmon reared at 204 hatcheries in northern Japan. The protozoan was wide spread in the area at water temperature between 2 and 15°C. He added that percentage of positive hatcheries was 15.2% for ***T. truttae.***

El-khatib (1993) performed experiment on 740 alive fish 340 Oreochromis sp, 400 clarias sp. found high infestation of Clarias fish with a protozoan Trichodina sp. 63% and ***Oreochromis niloticus*** infested with Trichodina sp. 55.9% and added that the seasonal variation in ***O-niloticus*** showed, maximum infestation rate with Trichodin sp. at spring with a percentage of 46.7% and Clarias fish showed high prevalence rate with Trichodina sp. in Winter and Spring.

Pojmanska and Chabros (1993) found that ***T.domerguei, Trichodina nigra, Trichodina pediculus, Trichodina mutabilis*** parasitizing four herbivorous cyprinid fish species fish ponds in Poland examined during three season of the year (Spring, Summer, Autumn) and he found that Trichodinid species appeard to be most frequent in the Spring (at the end of a hibernation period in winter ponds) and less frequent or absent in Summer.

Poyton and Hoffman (1993) reported that Trichodinid infection may cause a variety of dermal lesions, including epithelial erosion, loosened scales and excess mucus production, as well as darkening of the skin. Heavily infected fish "flash", become anoretic listless, and finally die. Trichodina can be identified in wet mounts of scrapings by its characteristic motion and disk shaped.